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# Radiotelephone

(AVIATION SERVICES)

## Handbook


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DEPARTMENT OF TRANSPORT  
TELECOMMUNICATIONS AND ELECTRONICS BRANCH



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# **RADIOTELEPHONE**

**(AVIATION SERVICES)**

## **H a n d b o o k**

DEPARTMENT OF TRANSPORT  
TELECOMMUNICATIONS AND ELECTRONICS BRANCH





38084337010A2

(RECEIVED SERVICES)

200808

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QUEEN'S PRINTER AND CONTROLLER OF STATIONERY

OTTAWA, 1965

Cat. No. T54 1165

## FOREWORD

This handbook is intended as a guide to those in the aeronautical service—both aircraft and ground stations—who operate radiotelephone. It will also be useful as a textbook for candidates preparing for examinations leading to Radiotelephone Operators' Restricted Certificates. It is intended more particularly for the private and itinerant flyer and radio operators employed at ground stations of the smaller air carriers and bush operators. Those interested in radio communications as conducted by the larger air carriers and executive organizations are referred to publications produced and issued by the International Civil Aviation Organization (ICAO), particularly Annex 10,—Aeronautical Communications, or Field Manual No. 1—Communications Procedures (DOC. 4478-COM/501).

Correct procedure on the part of operators of radiotelephone equipment is necessary for the efficient exchange of communications and particularly important where lives and property are at stake. It is also essential for a fair sharing of "On-the-Air" time in the crowded radio spectrum.

The procedures are based upon those formulated by the International Telecommunications Union (ITU) and the International Civil Aviation Organization (ICAO) and are used by all Department of Transport aeronautical stations. Numerous examples are included.

This publication also sets forth the regulations governing radiotelephone stations in the aeronautical service. All the regulations are based upon the Radio Act and the General Radio Regulations made under it, and the Aeronautics Act and the Air Regulations made under it.

This handbook is divided into five main chapters: (1) Regulations (2) Procedures (3) Distress Communications (4) Urgency Communications and (5) Safety Communications. Paragraphs are all numbered. Prime or main paragraphs are indicated by a single number, while secondary or sub-paragraphs carry the number of the prime paragraph followed by one or more numbers which indicate its relationship to the prime paragraph. This system of paragraph numbering has been found by experience to permit easy cross-reference within the text and a simple means of reference in correspondence. Paragraph numbers when used for reference purposes include all sub-divisions of that paragraph.

Special attention should be given to those sections dealing with distress, urgency and safety.

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# RADIOTELEPHONE HANDBOOK

## AVIATION SERVICES

### 1. REGULATIONS

1.1 **Operators' Certificates.** Radiotelephone equipment installed in any civil aircraft registered in Canada or at any aeronautical ground station in Canada may only be operated by persons holding an appropriate Certificate of Proficiency in Radio. In most instances a Radiotelephone Operator's Restricted Certificate will suffice.

1.1.1 A convention between Canada and the United States of America relating to the operation by citizens of either country of certain radio equipment or stations in the other country, commonly referred to as "The Reciprocal Agreement," provides that an American citizen may operate the radio equipment installed in a Canadian aircraft if:

- (1) he holds a Canadian or USA pilot's licence,
- (2) he holds a USA radio operator's licence or permit,
- (3) the operation of the radio equipment is complementary to his functions or duties as a pilot, and
- (4) the radio is operated in accordance with Canadian laws and regulations.

1.2 **Station Licences.** Radio stations installed in aircraft registered in Canada or established on the ground in Canada are required to be licensed.



- 1.2.1 The licence must be posted in a conspicuous place near the equipment so that it may be readily available for inspection. In the case of aircraft radio stations this requirement may be met by carrying the licence with the aircraft journey log book.
- 1.2.2 The radio licence specifies the call sign assigned to the station, the frequencies which may be used for transmitting and any special conditions under which the station shall be operated.
  - 1.2.2.1 To ensure that safety of life aspects of the radio-telephone services are protected, aircraft and aeronautical ground stations will only be licensed when the equipment has been found to be acceptable for licensing by the Department of Transport.
  - 1.2.2.2 No radio station may be established or radio equipment installed or operated without a radio licence issued by the Minister of Transport for Canada.
- 1.2.3 The licence fee for aircraft radio stations and aeronautical ground stations providing an aeronautical mobile type of service is ten dollars (\$10.00) per year. Licence fees are due April 1st and the licence year ends on March 31st the following year. The full licence fee for the current fiscal year must be paid regardless of when the licence is granted.
- 1.3 **Secrecy of Communications.** Radio operators and all persons who become acquainted with radiocommunications are bound to preserve the secrecy of correspondence. No person shall divulge the contents of, or even the existence of, correspondence transmitted, received or intercepted by a radio station, except to the

addressee of the message or his accredited agent, or to properly authorized officials of the Government of Canada or a competent legal tribunal, or an operator of a telecommunications system as is necessary for the furtherance or delivery of the communications. The foregoing restrictions do not apply to messages of distress, urgency or safety or to messages addressed to "ALL STATIONS;" i.e., weather reports, storm warnings, notices to airmen, etc.

- 1.3.1 Any person who violates the secrecy regulations is liable, on summary conviction to a penalty not exceeding five hundred dollars (\$500.00), or to imprisonment for a term not exceeding six months or to both fine and imprisonment.

#### 1.4 **Control of Communications.**

- 1.4.1 **Controlling Station.** In communications between ground stations and aircraft stations the aircraft station shall comply with the instructions given by the ground station in all matters relating to the order and time of transmission, the choice of frequency and to the duration and suspension of work. In communications between aircraft stations the station called shall be the controlling station subject to intervention by a ground station. In communications between ground stations the station called shall be the controlling station except in net operations when the net control station shall control the communications. These provisions do **not** apply in cases of distress. (See paragraph 3.11.2).

- 1.4.2 **Aircraft Station.** The operation of an aircraft station is under the control of the pilot or other person in charge of the aircraft.

- 1.4.3 **Communication with Ground Control Stations.** As a general rule aircraft stations should pass their traffic to the ground control station appropriate to the area in which they are flying, except that they may communicate with other ground stations when traffic can be handled more efficiently than through the ground control station.
- 1.5 **Unauthorized Communications.** Radio operators are not permitted to transmit unnecessary signals of any kind. Communications must be restricted to those necessary for the transmission of authorized messages. (See 2.2.9 and 2.3.8 for instructions related to test transmissions).
- 1.5.1 **Profane Language.** Profane and offensive language is strictly prohibited.
- 1.5.2 **Penalty.** Any person who violates the regulations relative to unauthorized communications or profane language is liable, upon summary conviction to a penalty not exceeding fifty dollars (\$50.00) and costs or to imprisonment for a term not exceeding three months.
- 1.5.3 **False Distress Signals.** Any person who knowingly transmits or causes to be transmitted any false or fraudulent distress signal, call or message, or who without lawful excuse interferes with or obstructs any radio communication, is guilty of an offence and is liable, on summary conviction, to a penalty not exceeding five hundred dollars (\$500.00) and costs or to imprisonment for a term not exceeding six months or to both fine and imprisonment.
- 1.6 **Hours of Service (Watchkeeping).**
- 1.6.1 **Aircraft.** During flight, aircraft stations shall maintain watch as required by the competent authority (usually Air Traffic Control) and shall operate on the



appropriate radio frequency. Aircraft stations shall not cease watch, except for reasons of safety, without informing the appropriate ground station.

- 1.6.2 **Ground Stations.** Ground stations should not discontinue watch while aircraft for which they are responsible are known to be flying within their area of control unless arrangements have been made for another ground station suitably located and equipped to take over such duties. When such alternate arrangements are made all aircraft concerned should be informed accordingly.

- 1.7 **Time.** The twenty-four hour system should be used in expressing time. It should be expressed and transmitted by means of four figures, the first two denoting the hour past midnight and the last two the numbers past the hour. When no possibility of confusion is likely to exist the figures denoting the hour may be omitted.

*Examples:*

12:45 AM	expressed—	0045
12:00 noon	“	—1200
12:45 PM	“	—1245
11:45 PM	“	—2345
12:00 midnight	“	—2400 or 0000
1:30 AM	“	—0130
1:45 PM	“	—1345
4:30 PM	“	—1630

- 1.7.1 Normally Greenwich Mean Time (GMT) should be used. When written G.M.T. is usually indicated by letter Z. Where operations are conducted solely within one time zone in Canada, standard zone time may be used, however, care shall be taken that the time zone is clearly indicated. Daylight Saving Time should not

be used. Standard time zones should be indicated when written by the following letters.

Newfoundland	—N
Atlantic	—A
Eastern	—E
Central	—C
Mountain	—M
Pacific	—P
Yukon	—Y

*Examples:*

6:30 PM E.S.T.	is expressed—	1830E
10:30 AM P.S.T.	“	—1030P
2:30 AM G.M.T.	“	—0230Z

- 1.7.2. **Date.** Where the date as well as the time of day is required to be shown, a six figure group should be used. The first two figures indicate the day of the month and the following four figures indicate the time.

*Examples:*

Information	Expressed
Noon on the 16th day of the month (GMT)	161200Z
8:29 PM (GMT) on the 2nd day of the month	022029Z
2:45 AM (EST) on the 24th day of the month	240245E

- 1.8 **Record of Communications (Radio Log).** All radio stations are required to keep a log or diary either written or automatic, e.g. tape recording, in which is recorded in chronological order the activities of the station, including the nature of messages and signals transmitted, received or intercepted by the station. (See 1.8.2 for exceptions relative to aircraft stations.)

- 1.8.1 **Ground Stations.** Aeronautical ground stations are required to keep a radio log in which shall be recorded the following particulars:

(1) the name or location of the station and its call sign;

- (2) the times of opening and closing of the station, where continuous service is not provided;
- (3) the name(s) of the radio operator(s) on watch and the time of going on and off watch;
- (4) the frequency(ies) guarded;
- (5) a summary of all communications transmitted, received or intercepted relating to distress, urgency and safety traffic;
- (6) brief summaries of communications exchanged with other stations, with the frequency(ies) used for both transmission and reception; and
- (7) a reference to important service incidents.

**1.8.2 Aircraft Stations.** Except for communications relating to distress and urgency communications, and for communications passed directly between aircraft, an aircraft station need not maintain a radio log. If desired information relative to these types of communications may be entered in the aircraft journey log book rather than a separate radio log. Entries relative to distress and urgency communications, harmful interference or interruption to communications should be associated with information concerning the time and the position and altitude of the aircraft.

**1.8.3 Retention of Log.** Radio logs shall be retained by the licensee of the station for at least ninety days for written logs or thirty days for automatically recorded (tape recorder) logs except that any portion of the log pertinent to accident inquiries or investigations shall be retained until all action resulting from such incidents are concluded or it is evident that such records will no longer be required.

**1.8.3.1** Radio logs shall be available for inspection by Radio Inspectors or other authorized persons either at the



station or the office(s) of the licensee at all reasonable times.

- 1.8.4 **Examples of Log-Keeping.** The following examples are intended to show how various items may be entered in the radio log. It will be noted that the 24-hour time system based on GMT is employed (See 1.7 for further details.)

1.8.4.1 **Ground Stations.**

(1) Watch-keeping

0800 A.K. Wilson off duty  
R.W. Johnson on duty  
1600 R.W. Johnson off duty  
B.K. Green on duty

(2) Frequency(ies) guarded

0800 Stand-by on day frequency 5499 Kc  
1730 Change to night frequency 2917 Kc  
1840 Checked time signals (3 sec. fast) 3330 Kc  
41 Returned to night frequency 2917 Kc

(3) Distress, urgency and safety

**Distress:**

- 1225 MAYDAY from CF-ZXY, 50 miles S of Seven Islands at 1725E, 4T, Anson 5, icing, attempting crash landing on ice. (See 3.13.1).  
1226 Acknowledge MAYDAY. (See 3.13.2).  
1232 CF-ZXY cancels MAYDAY, maintaining altitude and returning to Seven Islands Distress traffic ended. (See 3.13.4).

**Urgency:**

- 1135 Urgent message from Cessna ABC, undercarriage of Grumman XYZ appears to be damaged. (See 4.5.2).

- 1137 Urgent call to XYZ, advise him re his under-carriage—acknowledged.
- 1150 XYZ advised undercarriage down and locked, will attempt landing.
- 1158 XYZ landed—emergency over.

#### Safety:

- 1730 CF-CBA reports hearing safety message re tug encountering drifting log boom. (See 2.1.5.3 and 5.4)
- 1731 Safety message relayed to local maritime authorities.

#### (4) Exchange of Communications:

- 1537 CF-ADT OVR OW 35 5T IFR OTOP  
ETA UL 25 REQ UL WX.
- 1539 UL WX to CF-ADT.
- 1615 Sent XI NOTAM to CF-EZV.

#### (5) Service Incidents:

- 2140 Receiver went dead. Second detector tube replaced, receiver OK.
- 2315 Power failure due thunderstorm.
- 2317 Emergency power supply operating and all equipment OK.
- 2328 Hydro power restored.

1.9 **Frequencies to be used.** The frequencies assigned to a station and the purposes for which they may be used are detailed on the station licence.

1.9.1 In the aeronautical mobile service when more than one frequency is available for any given purpose, the ground station shall normally determine which frequency shall be used.

## 2. PROCEDURES

### 2.1 General

2.1.1 **Transmitting Techniques.** The efficient use of radiotelephony depends very greatly on the method of speaking and articulation of the operator. As the distinctive sounds of consonants are liable to become blurred in the transmission of speech and as words of similar length containing the same vowel sounds are apt therefore to sound alike, special care is necessary in their pronunciation.

2.1.1.1 Speak all words plainly and end each word clearly so as to prevent the running together of consecutive words. Avoid any tendency to shout, to accent syllables artificially, or to talk too rapidly. The following points should be kept in mind when using radiotelephony:

**SPEED**—Keep the rate of utterance constant, neither too fast nor too slow. Remember that the operator receiving your message has to write it down.

**PITCH**—Remember that high pitched voices transmit better than low pitched ones.

**RHYTHM**—Preserve the rhythm of ordinary conversation. In separating words so that they are not run together, avoid the introduction of sounds that do not belong, such as “er” and “um”.

**MICROPHONE POSITION**—Maintain at all times the correct position between mouth and microphone for the microphone in use. Usually the lips of the operator should not be more than one inch from the microphone.



2.1.2 **Word Spelling.** The words of the ICAO spelling alphabet which follow should be learned thoroughly so that, whenever isolated letters or groups of letters are pronounced separately or when communication is difficult, the alphabet can be easily and fluently used.

A—ALFA	J—JULIETT	S—SIERRA
B—BRAVO	K—KILO	T—TANGO
C—CHARLIE	L—LIMA	U—UNIFORM
D—DELTA	M—MIKE	V—VICTOR
E—ECHO	N—NOVEMBER	W—WHISKEY
F—FOXTROT	O—OSCAR	X—X-RAY
G—GOLF	P—PAPA	Y—YANKEE
H—HOTEL	Q—QUEBEC	Z—ZULU
I—INDIA	R—ROMEO	

*Examples:*

When using the spelling alphabet, the name “EUREKA” would be spoken as Echo Uniform Romeo Echo Kilo Alfa.

2.1.3 **Transmission of Numbers.** All numbers except whole thousands should be transmitted by pronouncing each digit separately. Whole thousands should be transmitted by pronouncing each digit in the number of thousands followed by the word “thousand”.

*Example:*

Number	Transmitted as
10	One zero
75	Seven five
100	One zero zero
583	Five eight three
5000	Five thousand
5800	Five eight zero zero
11000	One one thousand
25000	Two five thousand
38143	Three eight one four three

- 2.1.3.1 Numbers containing a decimal point shall be transmitted as prescribed in 2.1.3 with the decimal point in the appropriate sequence being indicated by the word "decimal".

*Example:*

Number	Transmitted as
118.1	One one eight decimal one

- 2.1.3.2 When it is desired to verify the accurate reception of numbers the person transmitting the message shall either:

- (a) repeat all the numbers, or
- (b) request the receiving operator to repeat all the numbers in accordance with the following examples.

*Examples:*

A ground station wishes to pass the following message to an aircraft "Climb to 3500 feet and contact approach control on 119.1 Mc/s"

Method (a)—

Ground station—"Climb to three five zero zero I say again three five zero zero feet and contact approach control on one one nine decimal one I say again one one nine decimal one megacycles".

Method (b)—

Ground station—"Climb to three five zero zero feet and contact approach control on one one nine decimal one megacycles, read back altitude and frequency, over".

**Aircraft—**

“Wilco three five zero zero feet, one one nine decimal one megacycles, over”.

Ground station—“That is correct, out”.

- 2.1.3.3 When communication is difficult numbers should be transmitted using the following pronunciation:

Number	Pronunciation
0	ZE-RO
1	WUN
2	TOO
3	TREE
4	FOW-er
5	FIFE
6	SIX
7	SEV-en
8	AIT
9	NIN-er
Decimal	DAY-SEE-MAL
Thousand	TOU-SAND

*Note:* The syllables printed in capital letters in the above list should be stressed; for example, the two syllables of ZE-RO are given equal emphasis, whereas the first syllable of FOW-er is given primary emphasis.

- 2.1.3.4 Signs denoting monetary denominations, when transmitted with groups of figures to indicate an amount of money, should be transmitted in the sequence in which they are written.

**Examples:**

As written	As spoken
\$17.25	Dollars one seven decimal two five
75c	Seven five cents.

**Procedure Words and Phrases.** While it is not practical to lay down a precise phraseology for all radio-telephone procedures, the following words and phrases should be used where applicable. Words and phrases such as "OK", "REPEAT", "HOW IS THAT", etc., or slang expressions should not be used.

Word or Phrase	Meaning
ACKNOWLEDGE.....	Let me know that you have received and understood this message.
AFFIRMATIVE.....	Yes, or Permission granted.
BREAK.....	I hereby indicate the separation between portions of the message. (To be used where there is no clear distinction between the text and other portions of the message).
CONFIRM.....	My version is . . . is that correct?
CORRECTION.....	An error has been made in this transmission (or message indicated). The correct version is . . .
GO AHEAD.....	Proceed with your message.
HOW DO YOU READ.....	Self-explanatory.
I SAY AGAIN.....	Self-explanatory.
NEGATIVE.....	No, or Permission not granted, or That is not correct, or I do not agree.
OVER.....	My transmission is ended and I expect a response from you.
OUT.....	This conversation is ended and no response is expected.
READ BACK.....	Repeat all of this message back to me exactly as received, after I have given OVER. (Do not use the word "repeat").
ROGER.....	I have received all of your last transmission.
ROGER NUMBER.....	I have received your message number . . .
SAY AGAIN.....	Repeat all, or the following part, of your last transmission. (Do not use the word "repeat").



SPEAK SLOWER.....	Self-explanatory.
STANDBY.....	Self-explanatory.
THAT IS CORRECT.....	Self-explanatory.
VERIFY.....	Check coding, check text with originator and send correct version.
WILCO.....	Your instructions received, understood, and will be complied with.
WORDS TWICE.....	(a) As a request: Communication is difficult, please send each word twice. (b) As information: Since communication is difficult, I will send each word twice.

**2.1.5 Categories of Messages.** The following categories of messages are recognized in the aeronautical service. Not all categories however are considered acceptable in the aeronautical mobile service (See 2.2.1).

**2.1.5.1 Distress Messages and Distress Traffic.** (see 3.)

**2.1.5.2 Urgency Messages.** (see 4.)

*Note:*

In the Aeronautical Fixed Service Urgency messages and Safety messages are grouped together as Messages for the Safety of Human Life.

**2.1.5.3 Safety Messages.** (see 5.)

*Note:*

Safety messages are not employed in the aeronautical service but in view of possible inter-service communications with maritime operations (ships) it is considered essential this procedure be known.

**2.1.5.4 Flight Safety Messages.** Flight Safety Messages comprise the following types:

- (1) Air traffic control messages:
  - (a) Air traffic control messages concerning aircraft in flight or about to depart.
  - (b) Departure messages.
  - (c) Flight plan/departure messages.

- (d) Arrival messages.
  - (e) Flight plan messages.
  - (f) Transfer of control messages.
  - (g) Messages concerning cancellation of flight.
  - (h) Messages concerning delayed departure.
- (2) Position reports from aircraft.
  - (3) Messages originated by an aircraft operating agency of immediate concern to an aircraft in flight or about to depart.
  - (4) Meteorological advice of immediate concern to an aircraft in flight or about to depart.

**2.1.5.5 Meteorological Messages.** Meteorological messages comprise the following types:

- (1) Messages containing meteorological forecasts.
- (2) Messages containing exclusively meteorological observations.
- (3) Other meteorological messages exchanged between meteorological offices.

**2.1.5.6 Flight Regularity Messages.** Flight regularity messages comprise the following types:

- (1) Load messages, i.e. messages containing details of the number of passengers and crew, weight of cargo and other data required for weight and balance computation. Other remarks essential to the rapid clearance of the load from the aircraft may be included.
- (2) Messages concerning changes in aircraft operating schedules to become effective within seventy-two hours after the message is filed.
- (3) Messages concerning the servicing of aircraft, when the aircraft is en route or scheduled to depart within forty-eight hours.

- (4) Messages concerning changes in collective requirements for passengers, crew, and cargo, caused by unavoidable deviations from normal operating schedules and necessary for flight regularity for aircraft en route or about to depart. Individual requirements of passengers or crew are not admissible in this type of message.
- (5) Messages concerning non-routine landings to be made by an aircraft en route or about to depart.
- (6) Messages concerning parts and material urgently needed for the operation of aircraft en route or scheduled to depart within forty-eight hours.
- (7) Messages concerning the pre-flight arrangement of air navigation services, and operational servicing for non-scheduled or irregular operations of aircraft, filed within forty-eight hours of proposed time of departure.

**2.1.5.7 Aeronautical Administrative Messages.** Aeronautical administrative messages comprise the following types:

- (1) Messages regarding the operation or maintenance of facilities essential for the safety and regularity of aircraft operation.
- (2) Messages essential to the efficient functioning of aeronautical telecommunications service.
- (3) Messages exchanged between government civil aviation authorities relating to aircraft operation.

**2.1.5.8 Notices to Airmen (NOTAMS).**

**2.1.5.9 Reservation Messages.** Reservation messages comprise messages originated by aircraft operating agencies concerning the selling, releasing or regulation of weight

or space capacity for goods or for the individual accommodation of passengers, aboard public transport aircraft scheduled to depart within seventy-two hours after the message is filed.

#### **2.1.5.10 General Aircraft Operating Agency Messages.**

General aircraft operating agency messages comprise messages originated by aircraft operating agencies other than those prescribed in 2.1.5.1 to 2.1.5.9 inclusive, which, by virtue of their importance, have a direct bearing on the efficient and economic conduct of the day-to-day operation of the agencies, and are subject to the following conditions.

- (1) They may be flight regularity and reservation messages that do not conform to the time limitations prescribed for those types of messages (See 2.1.5.6(2) to 2.1.5.6(7) and 2.1.5.9)
- (2) They must be addressed to offices or representatives of the aircraft operating agency.
- (3) Third party messages are not acceptable.

### **2.2 Aeronautical Mobile Procedures**

**2.2.1 Priority of Communications.** The order of priority of radiocommunications in the aeronautical mobile service is as follows:

- (1) Distress communications,
- (2) Urgency communications,
- (3) Safety communications, (see 2.1.5.3 and 5.)
- (4) Communications relative to direction finding,
- (5) Flight safety messages,
- (6) Meteorological messages,
- (7) Flight regularity messages.

**Note:** A NOTAM may be granted any priority from 3) to 7) inclusive depending upon its contents and importance to the aircraft concerned.



2.2.2 **Call Signs.** A distinctive call sign is assigned to each radio station for identification purposes and should be used at least when initial contact is being established.

2.2.2.1 **Aeronautical Ground Stations.** In radiotelephony, where necessary to indicate the service provided by a particular ground facility, the words listed below should be used as appropriate. The words are spoken following the name of the location of the facility.

INFORMATION	—Flight Information Centre
TERMINAL CONTROL CENTRE	—Terminal Control Unit
G C A	—Area Control Centre
	—Ground Control Approach System
SURVEILLANCE RADAR	—Surveillance Approach Radar (PPI)
PRECISION RADAR	—Precision Approach Radar (PAR)
TOWER	—Aerodrome Control Tower
GROUND CONTROL	—Aerodrome Ground Control
RADIO	—Radio Range or Radio Beacon Station

*Note:*

In addition, the Surveillance Radar (PPI) and Precision Radar operators of a G C A system identify themselves by the use of the location name followed by the words DIRECTOR and PRECISION, respectively.

*Examples:*

GANDER TERMINAL CONTROL  
VANCOUVER CENTRE  
CALGARY GROUND CONTROL  
MONTREAL PRECISION  
YELLOWKNIFE RADIO  
OTTAWA TOWER

2.2.2.1.1 Where there are two or more systems of the same nature at a given location it is desirable, in order to ensure positive identification for those facilities owned and operated by an aircraft operating agency or other private organization to precede the name of the location by the name or recognized abbreviation of the organization.

*Examples:*

SPARTAN OTTAWA  
BCA VANCOUVER  
MCA GOOSE

2.2.2.2 **Aircraft Stations.** In radiotelephony, aircraft shall be identified by one of the following types of call sign:

- (1) the five-letter call sign of the aircraft—CFABC
- (2) the official registration mark of the aircraft—CFXYZ

*Note:*

For aircraft registered in Canada (1) and (2) are always the same.

- (3) the five letter call sign of the aircraft preceded by the name or recognized abbreviation of the aircraft operating agency or the type of aircraft in the case of a private owner—PACIFIC WESTERN CFPWA CESSNA CFADT
- (4) the name or recognized abbreviation of the aircraft operating agency followed by the flight identification number—MCA ONE TWO EMPRESS ONE ZERO TWO

2.2.2.2.1 After communication has been established and when no likelihood of confusion is likely to exist abridged call signs of the following types may be used:

- (1) the name or recognized abbreviation of the aircraft operating agency followed by the last two letters of its five letter call sign—PACIFIC WESTERN WA
- (2) in the case of aircraft registered in Canada and operating within Canada, the last three letters of its five-letter, call sign; i.e. the Canadian nationality marking “CF” need not be used—CESSNA ADT

2.2.2.2.2 An aircraft shall not change the type of its call sign during flight.

2.2.3 **Calling.** Before transmitting, the operator of every station shall listen for a period long enough to satisfy himself that he will not cause harmful interference to transmissions already in progress. If such interference seems likely, he shall await the first break in the transmission with which he might interfere, except that a station having a distress, urgency or safety communication to transmit is entitled to interrupt at any time a transmission of lower priority which is in progress.

2.2.3.1 **Single Station Call.** When station wishes to establish communication with a specific station, it shall transmit the following items in the order indicated:

Item	Spoken
Call sign of station called (not more than three times)	OTTAWA RADIO
The words THIS IS	THIS IS
Call sign of the station Calling (not more than three times)	CESSNA CFADT
Frequency on which station calling is transmitting	ONE TWO TWO DECIMAL ONE
Invitation to reply	OVER

2.2.3.2 **Multiple Station Call.** If it is desired to call more than one station simultaneously, the call signs of the

stations may be transmitted in any convenient sequence preceding the words **THIS IS**

*Example:*

CESSNA CFADT, TRANSAIR ONE TWO,  
BRADLEY CFPIX, THIS IS OTTAWA RA-  
DIO, OVER.

- 2.2.3.3 **General Call.** When an aircraft wishes to establish communications with any station within range, or in a certain area, the call should be in the following form:

Item	Spoken
General Call (not more than three times)	ALL STATIONS (or ALL AIRCRAFT NEAR ARNPRIOR)
The words <b>THIS IS</b>	<b>THIS IS</b>
Call sign of the station calling (not more than three times)	CFBBG
Invitation to reply	<b>OVER</b>

- 2.2.3.3.1 When a station wishes to broadcast information to all stations which may hear it and does not desire an acknowledgement or a reply, it proceeds with the message immediately after the call sign and ends the transmission with its call sign and the word **OUT**.

## 2.2.4 **Replying.**

- 2.2.4.1 When a station is ready to receive the proffered communication, it should reply to the call in the following form:

Item	Spoken
Name of the calling station (not more than three times)	OTTAWA RADIO
The words <b>THIS IS</b>	<b>THIS IS</b>
Its own name or call sign (once)	CESSNA CFADT
The words <b>GO AHEAD</b>	<b>GO AHEAD</b>

- 2.2.4.2 When a called station is not ready to receive the proffered communication, it should reply to the call but



replace the words **GO AHEAD** with the word **STANDBY**. The length of the probable delay, stated in minutes, should be added when possible. If the delay is expected to exceed two minutes the reason for the delay should be given.

**Example:**

CESSNA ADT THIS IS OTTAWA RADIO  
STANDBY THREE MINUTES, WEATHER  
BROADCAST, OUT.

- 2.2.4.3 Stations replying to a multiple call (2.2.3.2) should answer, as a general rule, in the order in which they were called.
- 2.2.4.4 When a station hears a call without being certain that the call was intended for it, it should not reply until the call has been repeated and understood.
- 2.2.4.5 When a station is called, but is uncertain of the identity of the calling station, it should reply immediately in the following manner:  
“ . . . (station called) SAY AGAIN YOUR CALL SIGN”.

**Example:**

(Vancouver Tower was the station *called* and is uncertain of the identity of the *calling* station)  
VANCOUVER TOWER (pause) SAY AGAIN  
YOUR CALL SIGN OVER.

- 2.2.4.6 After communication has been established and when no confusion is likely to arise, a shortened form of procedure may be used by omitting the words such as **OVER, THIS IS**, etc.
- 2.2.5 **Failure of Communications.**
- 2.2.5.1 When contact with an aeronautical ground station fails on the selected frequency, the aircraft should attempt to

establish contact on another frequency appropriate to the route or area in which it is flying.

- 2.2.5.2 When normal communications from an aeronautical ground station to an aircraft cannot be established, the ground station should attempt to relay the traffic via any other ground station or aircraft which may be able to establish communications.
- 2.2.5.2.1 When a message containing information other than clearances or instructions issued by air traffic control units cannot be delivered to an aircraft after applying the procedure in 2.2.5.2, the message should be transmitted by blind transmission on the frequency(ies) on which the aircraft is believed to be listening.
- 2.2.5.3 Blind transmissions of clearances or instructions issued by air traffic control units shall not be made to aircraft except at the specific request of the originator.
- 2.2.5.4 When an aircraft is unable to establish communications due to receiver failure, it shall transmit its messages on the frequency last used, or the frequency normally used for communicating with the appropriate ground station, preceding the message by the words **TRANSMITTING BLIND**. The aircraft shall repeat each message, so sent, in full. During this procedure, the aircraft shall also advise the time of its next intended transmission.
- 2.2.5.5 An aeronautical ground station shall notify the appropriate air traffic control unit and the aircraft operating agency, as soon as possible, of any failure in air-ground communications.
- 2.2.6 **Exchange of Communications.**
- 2.2.6.1 **Acknowledgment of Receipt.** An acknowledgment of receipt should not be given until the receiving operator is certain that the transmitted message or informa-

tion has been completely and correctly received. The acknowledgment of receipt for a message or information should be transmitted in the following manner:

Item	Spoken
Name of the station from which the message was received	VANCOUVER RADIO
The words <b>THIS IS</b>	<b>THIS IS</b>
Name of the station receiving the message	SEABEE OXO
The word <b>ROGER</b>	<b>ROGER</b>
The number or other identification of the message (if applicable)	NUMBER THREE
The word <b>OVER</b> or <b>OUT</b> (as applicable)	<b>OVER</b> (or <b>OUT</b> )

- 2.2.6.1.1 When no confusion or misunderstanding is likely to occur, the acknowledgment may be shortened by transmitting in the following manner:

Item	Spoken
Name of the station receiving the message	SEABEE OXO
The word <b>ROGER</b> (if required)	<b>ROGER</b>

- 2.2.6.2 **Termination of Contact.** A radiotelephone conversation should always be terminated by the receiving station transmitting its own name or identification followed by the word **OUT**.

*Example:*

VANCOUVER RADIO **OUT**.  
SEABEE OXO **OUT**.

- 2.2.7 **Composition of Messages.**

- 2.2.7.1 **Composition of Messages requiring a Specific Address.**

**2.2.7.1.1 Messages originated in an Aircraft.** When an aircraft is the place of origin of a message that requires a specific address and/or retransmission or relay over the aeronautical fixed service, the message should comprise the following parts in the order stated:

- (1) the call,
- (2) the address (preceded by the word **FOR**),
- (3) the text,
- (4) the signature group (if used).

**Example:**

(call)	OTTAWA RADIO THIS IS CFPDQ
(address)	FOR LAURENTIAN OTTAWA
(text)	ENGINE CHANGE REQUIRED ON ARRIVAL

**2.2.7.1.2 Messages addressed to an Aircraft.** When a message is transmitted to an aircraft in flight it should comprise the following parts in the order stated:

- (1) the call
- (2) the word **FROM**
- (3) the signature group (if used)
- (4) the name of the place of origin
- (5) the text.

**Examples:**

(call)	CFPDQ THIS IS OTTAWA RADIO
(origin)	FROM LAURENTIAN OTTAWA
(text)	PROCEED HANGAR NUMBER FIVE ON ARRIVAL

**2.2.7.2 Messages which do not require a Specific Address.** When messages do not require a specific address, the call will indicate the address and office of origin.



***Examples:***

- (call) CHURCHILL RADIO THIS IS CFRST
- (text) MAY I CHANGE TO TOWER FREQUENCY
- (call) CFRST THIS IS CHURCHILL RADIO
- (text) CHANGE TO TOWER FREQUENCY  
ONE TWO ONE DECIMAL NINE  
MEGACYCLES
- (call) OTTAWA RADIO THIS IS CESSNA  
ADT
- (text) OVER OTTAWA AT ONE FIVE, NINE  
THOUSAND, IFR, ON TOP, ESTIMATE  
MONTREAL RANGE ZERO FIVE, RE-  
QUEST MONTREAL WEATHER, OVER

**2.2.8 Corrections and Repetitions.**

- 2.2.8.1 When an error has been made in transmission, the word **CORRECTION** should be spoken, the last correct word or phrase repeated and the correct version transmitted.

***Example:***

OVER OTTAWA AT TWO SEVEN CORREC-  
TION TWO EIGHT

- 2.2.8.2 Transmissions or items of transmissions should not be repeated unless requested by the receiving operator.
- 2.2.8.3 Repetitions should be requested if reception is doubtful.
- 2.2.8.4 If the receiving operator desires a repetition of a message he should speak the words **SAY AGAIN**. If repetition of only a portion of a message is required the receiving operator should use the appropriate following phraseology:

- (1) SAY AGAIN ALL BEFORE . . . (first word satisfactorily received) or
- (2) SAY AGAIN . . . (word before missing portion) TO . . . (word after missing portion), or
- (3) SAY AGAIN ALL AFTER . . . (last word satisfactorily received)

2.2.8.4.1 Requests for repetition of specific items of a message should be made by speaking the words SAY AGAIN followed by the identification of the portion of the message desired.

*Example:*

SAY AGAIN OFFICE OF ORIGIN,  
SAY AGAIN ALTIMETER,  
SAY AGAIN WIND.

2.2.9 **Tests.** When it is necessary for an aircraft to send signals for testing or adjustment of equipment, it shall whenever possible transmit its call sign at frequent intervals during the transmission.

2.2.9.1 Aircraft whose signals are liable to interfere with a neighboring aeronautical ground station shall first call the station and obtain permission to test before doing so.

2.2.9.2 When it is necessary for an aircraft to make test signals, such signals, shall not continue for more than ten seconds and shall comprise spoken numerals (ONE, TWO, THREE, FOUR, etc.) followed by the call sign of the aircraft transmitting the test signals.

2.2.9.3 When an aircraft requires a report on its signal it shall request a report by first calling an aeronautical ground station (or another aircraft) and then preceding the test count by the words SIGNAL CHECK, and ending its transmission with word OVER.

2.2.9.4 The station which has been requested to provide the signal report shall reply, using the following readability scale

- 1—Bad (or Unreadable)
- 2—Poor (or Readable now and then)
- 3—Fair (or Readable but with difficulty)
- 4—Good (or Readable)
- 5—Excellent (or Perfectly readable)

#### 2.2.9.5 **Test Procedures.**

2.2.9.5.1 The form of test transmissions should be as follows:

- (1) the name or identification of the station called
- (2) the words **THIS IS**
- (3) the aircraft identification or call sign
- (4) the words **SIGNAL CHECK**
- (5) the frequency being used
- (6) the word **OVER**.

*Example:*

KENORA RADIO THIS IS CFAZB SIGNAL CHECK THREE ZERO TWO THREE DECIMAL FIVE KILOCYCLES, OVER.

2.2.9.5.2 The reply to a test transmission should be as follows:

- (1) the identification or call sign of the aircraft
- (2) the words **THIS IS**
- (3) the name or identification of the station replying
- (4) the words **SIGNAL CHECK**
- (5) information regarding the readability of the test transmission in accordance with the readability scale (see 2.2.9.4).

*Example:*

CFAZB THIS IS KENORA RADIO, SIGNAL CHECK READING YOU FOUR, OUT (or OVER).

## 2.3 **Aeronautical Fixed (Point-to-Point) Procedures.**

### 2.3.1 **Priority of Communications.** The order of priority of radiocommunications in the aeronautical fixed service is as follows:

- (1) Distress communications,
- (2) Communications for the safety of human life (Safety and Urgency messages)
- (3) Flight Safety messages
- (4) Meteorological messages
- (5) Flight Regularity messages
- (6) Other messages

#### ***Note:***

When justified for special handling messages of categories (4), (5) and (6) may be granted higher priority, but in no case shall they take priority over communications concerning distress and the safety of human life.

#### 2.3.1.1 Messages of the same priority category should be transmitted in the order in which they are received for transmission.

### 2.3.2 **Call Signs.** A distinctive call sign, consisting of a group of letters or letters and figures, is assigned to each radio station for identification purposes.

#### ***Examples:***

VFG VFS7 CJM7O XMN45

#### 2.3.2.1 Call signs assigned to stations in the aeronautical fixed service shall not be abbreviated.

#### 2.3.2.2 When desired the call sign may be followed by the name of the location where the station is established.

*Examples:*

CJM250 CUMSHEWA  
VXX39 UCLUELET  
XLR61 GREEN LAKE

- 2.3.3 **Calling.** Before transmitting the operator of every station shall listen for a period long enough to satisfy himself that he will not cause harmful interference to transmissions already in progress. If such interference seems likely, he shall await the first break in the transmission with which he is likely to interfere, except that a station having distress communications or communications relative to the safety of human life to transmit is entitled to interrupt at any time a transmission of lower priority which is in progress.

- 2.3.3.1 **Single Station Call.** When a station wishes to establish communication with another specific station, it shall transmit the following items in the order indicated:

Item	Spoken
Call sign of the station called (not more than three times)	VYD FIVE SEVEN
The words THIS IS	THIS IS
Call sign of the station calling (not more than three times)	VXX THREE EIGHT
Invitation to reply	OVER

- 2.3.3.2 **Multiple Station Call.** If it is desired to call more than one station simultaneously, the call signs of the stations may be transmitted in any convenient sequence preceding the words THIS IS.

*Example:*

XLR TWO NINE, XLR THREE ZERO, XMN  
THREE EIGHT THIS IS XLN FIVE EIGHT,  
OVER.



- 2.3.3.3 General Call.** When a station wishes to establish communications with any station within range, or belonging to a certain organization, the call should be in the following form:

Item	Spoken
General Call (not more than three times)	ALL STATIONS (or ALL ONTARIO FORESTRY STATIONS)
The words THIS IS	THIS IS
Call sign of the station calling (not more than three times)	XLN ONE EIGHT
Invitation to reply	OVER

**Note:** This type of call is seldom needed or used in the aeronautical fixed service.

- 2.3.3.3.1** When a station wishes to broadcast information to all stations which may hear it or to which the information may be addressed, and does not desire an acknowledgment or a reply, it proceeds with the message immediately after the call and ends the transmission with its call sign and the word **OUT**.

## **2.3.4 Replying.**

- 2.3.4.1** When a station is ready to receive the proffered communication, it should reply to the call in the following form:

Item	Spoken
Call sign of calling station (not more than three times)	VXX THREE EIGHT
The words THIS IS	THIS IS
Its own call sign (once)	VYD ONE SEVEN
The words GO AHEAD	GO AHEAD

- 2.3.4.2** When a called station is not ready to receive the proffered communication, it should reply to the call but replace the words **GO AHEAD** with the word **STANDBY**. The length of the probable delay, stated in

minutes, should be added when possible. If the delay is expected to exceed two minutes the reason for the delay should be given.

**Example:**

VXX THREE EIGHT THIS IS VYD FIVE  
SEVEN STANDBY THREE MINUTES WORK-  
ING AIRCRAFT, OUT.

2.3.4.3 Stations replying to a multiple call (2.3.3.2) should answer, as a general rule, in the order in which they were called.

2.3.4.4 When a station hears a call without being certain that the call is intended for it, it should not reply until the call has been repeated and understood.

2.3.4.5 When a station is called, but is uncertain of the identity of the calling station, it should reply immediately in the following manner:

“ . . . (station called) SAY AGAIN YOUR CALL SIGN”.

**Example:** (Station XLR61 was the station *called* and is uncertain of the identity of the *calling* station)

XLR SIX ONE (pause) SAY AGAIN YOUR  
CALL SIGN, OVER.

2.3.4.6 After communication has been established and when no confusion is likely to arise, a shortened form of procedure may be used by omitting the words such as OVER, THIS IS, etc.

## 2.3.5 Exchange of Communications.

2.3.5.1 **Acknowledgment of Receipt.** Acknowledgment of receipt should not be given until the receiving

operator is certain that the transmitted message has been completely and correctly received. The acknowledgment of receipt for a message should be transmitted in the following manner:

Item	Spoken
Call sign of the station from which the message was received	XLR SIX ZERO
The words THIS IS	THIS IS
Call sign of the station receiving the message	XLN FIVE EIGHT
The word ROGER	ROGER
The number of the message	NUMBER ONE FIVE
The word OVER or OUT (as applicable)	OVER (or OUT)

- 2.3.5.1.1 When no confusion or misunderstanding is likely to occur, the acknowledgment may be shortened by transmitting in the following manner:

Item	Spoken
Call sign of the station receiving the message	XLN FIVE EIGHT
the word ROGER	ROGER
The number of the message (if desired)	ONE FIVE

- 2.3.5.2 **Termination of Contact.** A radiotelephone contact should always be terminated by the receiving station transmitting its own call sign followed by the word OUT.

*Example:*

CJN THREE THREE TWO—OUT.

- 2.3.6 **Composition of Messages.** In order to ensure accuracy of transmission and to provide a record, it is highly desirable that all information passed between stations be in message form. It also guards against

information being lost, garbled or misunderstood especially when it is necessary to relay such information from station to station or where the information is received from or delivered to a third party or person other than the operator actually transmitting or receiving the message. All messages consist of several parts which should be transmitted in the following order:

- (1) Transmission number of the message,
- (2) Office of origin
- (3) Filing number of the message (if used)
- (4) Number of words or groups in the address, text and signature (if used)
- (5) Date and time of filing
- (6) Address
- (7) Text
- (8) Signature (if used)

Items (1) through (5) taken together are known as the preamble.

**2.3.6.1 Transmission Number.** The transmission number is used to provide a check on the continuity of service between stations, so that messages will not become lost. A separate series of numbers is assigned in sequence for each station worked, and a new series is used each day, with the day starting at midnight.

**2.3.6.2 Office of Origin.** The name of city, town, or other location where the message originated, in the case of messages originating on board an aircraft and relayed between fixed stations, the call sign or other identification of the aircraft should be used; if desired it may be followed by the word VIA and the name of aeronautical ground station receiving the message from the aircraft.

- 2.3.6.3 Filing Number.** The filing number is a number assigned sequentially by the office of origin to all messages originating at the office in order to provide an easy and accurate means of referring to a specific message. The filing number should not exceed three digits, nor should the series be extended for more than one calendar year.
- 2.3.6.4 Number of Words.** When used, the number of words or group count indicates the number of words or groups in the address, text and signature of the message. Each word or group should be counted as one, irrespective of its length or composition. Separate signs other than letters and figures should not be counted. The use of a word count provides assurance against words being left out of, or added to, the message during transmission and relay.
- 2.3.6.5 Date and Time of Filing.** The date and time of filing is that when the message was received by the originating office from the sender. The date is indicated by the day of the month only, expressed as a two figure group; the month and year are not indicated. The time is expressed by a group of figures using the 24-hour system, the first two figures indicating the hour and the second two figures the minutes after the hour. Greenwich Mean Time should be used, although local zone time may be used if all operations of the operating agency are located in the same time zone, daylight saving time should not be used. When Greenwich Mean Time is used the group is followed by the letter Z, if local zone time is used the appropriate letter indicating the zone should be used. (See 1.7).
- 2.3.6.6 Address.** The address should provide sufficient information to enable the message to be delivered to the addressee without enquiry or requests for further



information. Usually in the aeronautical fixed service it is sufficient for the address to consist of:

- (1) the name or accepted abbreviation of the organization addressed, and
- (2) the place of destination (in some instances the call sign of the station of destination will suffice).

2.3.6.6.1 When a message is transmitted over the aeronautical fixed service and is addressed to an aircraft in flight, the address should consist of:

- (1) the call sign of the aircraft, and
- (2) the name or call sign of the aeronautical ground station required to retransmit the message to the aircraft.

2.3.6.7 **Text.** The text of the message contains the information or instructions which the sender desires to pass to the addressee.

2.3.6.8 **Signature.** A signature need not be used. If the sender does not desire a signature to be sent the words **NO SIGNATURE** should be spoken when transmitting the message to ensure there is no misunderstanding on the part of the receiving operator.

2.3.6.9 **Examples.** To illustrate the application of the above procedures the following example of a complete message is given as it would be spoken in transmission.

MESSAGE NUMBER ONE FIVE, FROM GREEN LAKE, FILING NUMBER SEVEN TWO, NUMBER OF WORDS TWO FOUR. FILED ZERO EIGHT ONE ZERO FIVE TWO GREENWICH, BREAK, ADDRESS SUPERINTENDENT ONTARIO FORESTRY SAULT STE MARIE, BREAK, TEXT CFODF DEPARTED GREEN LAKE ONE ZERO FIVE ZERO GREENWICH ON PATROL

RETURNING ONE FIVE FOUR FIVE GREEN-  
WICH BREAK, SIGNED JONES—OVER.

**2.3.7 Corrections and Repetitions.**

- 2.3.7.1 During Transmissions.** When an error has been made the word **CORRECTION** should be spoken, the last correct word group or phrase repeated and then the correct version transmitted.

*Examples:*

BEAVER CFADA WILL REQUIRE EIGHT  
FIVE—CORRECTION WILL REQUIRE NINE  
FIVE GALLONS FUEL ON ARRIVAL

- 2.3.7.2 After Transmission but before Acknowledgment of Receipt.** If after a message has been transmitted, but before acknowledgment of receipt has been obtained, the transmitting operator requires to correct any portion of the message, the word **CORRECTION** shall be spoken, followed by the identification of the word, group or phrase to be corrected and the correct version.

*Examples:*

CORRECTION—ADDRESS—NICKELBELT  
SUDBURY  
CORRECTION—WORD AFTER REPORT AR-  
RIVAL—WABANNA LAKE  
CORRECTION—SIGNATURE—OPERATION  
CHURCHILL.

- 2.3.7.3 Corrections after Acknowledgment of Receipt.** Corrections to messages after acknowledgment of receipt has been received, especially if the exchange of communications has been terminated should be made by service message.

**2.3.7.4 Repetitions.** Repetitions should be requested if reception is doubtful. Transmissions should not be repeated unless requested by the receiving operator.

**2.3.7.4.1** If the receiving operator desires a repetition of a message he should speak the words **SAY AGAIN**. If repetition of only a portion of a message is required the receiving operator should use the appropriate following phraseology:

- (1) **SAY AGAIN ALL BEFORE . . .** (first word satisfactorily received), or
- (2) **SAY AGAIN . . .** (word before missing portion)  
**TO . . .** (word after missing portion), or
- (3) **SAY AGAIN ALL AFTER . . .** (last word satisfactorily received).

**2.3.7.4.2** Requests for repetitions of specific items of a message should be made by speaking the words **SAY AGAIN** followed by the identification of the portion of the message desired.

*Example:*

**SAY AGAIN OFFICE OF ORIGIN  
SAY AGAIN ADDRESS  
SAY AGAIN SIGNATURE**

**2.3.8 Tests.** Any station sending signals for testing or adjustment of equipment shall, whenever possible, transmit its call sign at frequent intervals during such transmissions.

**2.3.8.1** When it is necessary for a station to make test signals, such signals shall not continue for more than ten seconds and shall be composed of spoken numerals (**ONE, TWO, THREE, FOUR**, etc.) followed by the call sign of the station transmitting the test signals.

- 2.3.8.2 When a station requires a report on its signal it shall request a report by first calling another station and then preceding the test count by the words **SIGNAL CHECK**, and ending its transmission with the word **OVER**.

*Example:*

CJM SIX ZERO SEVEN THIS IS CJM SIX ONE ONE—SIGNAL CHECK—ONE TWO THREE FOUR FIVE FIVE FOUR THREE TWO ONE—OVER.

- 2.3.8.3 The station which has been requested to provide the signal report shall reply, using the following readability scale.

- 1—Bad (or Unreadable)
- 2—Poor (or Readable now and then)
- 3—Fair (or Readable but with difficulty)
- 4—Good (or Readable)
- 5—Excellent (or Perfectly readable)

*Example:*

CJM SIX ONE ONE THIS IS CJM SIX ZERO SEVEN—SIGNAL CHECK, READING YOU FOUR, OUT (or OVER).

3. **DISTRESS COMMUNICATIONS.** In the aeronautical mobile service distress communications should be conducted in accordance with the procedures outlined below. These procedures shall not, however, prevent an aircraft in distress from making use of any means at its disposal to attract attention, make known its position, and obtain help.

- 3.1 **Frequencies to be Used.** The first transmission of the distress call and message by an aircraft should be on the air-ground frequency in use at the time.

- 3.1.1 If the aircraft is unable to establish communication on the frequency in use the distress call and message should be repeated on the general calling and distress frequency (3023.5 Kc or 121.5 Mc) or any other frequency available to it, in an effort to establish communications with any ground or other aircraft station.
- 3.1.2 Prior to changing frequency in accordance with 3.1.1 and if time permits the aircraft should transmit an appropriate phrase indicating the frequency to which it intends to change.
- 3.2 **Distress Signal.** In radiotelephony, the distress signal consists of the word MAYDAY.
- 3.2.1 The distress signal indicates that the aircraft or station sending the signal is
- (1) threatened by grave and imminent danger and requires immediate assistance, or
  - (2) aware that a ship, aircraft or other vehicle is threatened by grave and imminent danger and requires immediate assistance.
- 3.3 **Distress Call.** The distress call shall only be sent on the authority of the person in command of the aircraft or station.
- 3.3.1 The distress call shall comprise
- (1) the distress signal MAYDAY spoken three times
  - (2) the words THIS IS
  - (3) the call sign of the aircraft in distress spoken three times.
- 3.3.1.1 The distress call shall not be addressed to a particular station and acknowledgement of receipt shall not be given before the distress message is sent.



3.3.2 **Priority.** The distress call shall have absolute priority over all other transmissions. All stations which hear it shall immediately cease any transmission which may interfere with it and shall listen on the frequency used for the distress call.

3.4 **Distress Message.** The distress call shall be followed as soon as possible by the distress message.

3.4.1 The distress message shall comprise:

- (1) the distress call,
- (2) the call sign of the aircraft in distress,
- (3) particulars of its position (including, if time permits, estimated position, time of estimate, heading stating whether magnetic or true, indicated air speed, altitude and type of aircraft),
- (4) nature of distress and kind of assistance required,
- (5) any other information which might facilitate the rescue (this should include the intention of the person in command, such as forced alighting on the sea or crash landing).

*Note:*

If the aircraft is able to transmit the distress message immediately following the distress call then items 1) and 2) may be omitted from the distress message.

3.4.2 An aircraft in distress should signal its position

- (1) if possible by latitude and longitude, or
- (2) by the **TRUE** bearing and distance from a known geographical point.

3.4.3 After the transmission of its distress message, the aircraft in distress may be requested to transmit two dashes of ten to fifteen seconds duration each, or other suitable signals followed by its call sign, to permit

direction finding stations to take bearings. When using radiotelephony, the dashes may be produced by depressing the microphone button without speaking into the microphone.

- 3.5 **Repetition of Distress Message.** The distress message shall be repeated at intervals by the aircraft in distress until an answer is received.
- 3.5.1 The intervals between repetitions of the distress message shall be sufficiently long to allow time for stations which have received the message to reply.
- 3.5.2 Any station of the aeronautical mobile service which is not in a position to render assistance and which has heard a distress message that has not been immediately acknowledged, shall take all possible steps to attract attention of other stations which are in a position to render assistance.
- 3.5.2.1 At the same time, all necessary steps shall be taken to notify the appropriate authorities (Air Traffic Control and Search and Rescue organizations) who may be able to intervene usefully.
- 3.5.3 A station which repeats a distress call or distress message, shall follow it by the word **FROM** and its own call sign spoken three times.
- 3.6 **Action by Aircraft in Distress.** When an aircraft is threatened by grave and imminent danger, and requires immediate assistance, the person in command of the aircraft should direct appropriate action as follows:
  - (1) turn on automatic emergency equipment (if provided),
  - (2) transmit the distress call,
  - (3) transmit the distress message,
  - (4) listen for acknowledgment of receipt
  - (5) exchange further distress traffic as applicable.

3.6.1 Immediately prior to a forced or crash landing of an aircraft, as well as before total abandonment, the radio apparatus should, if it is considered that there is no additional risk of fire and if circumstances permit, be set for continuous transmission, and so left.

3.7 **Action by Aircraft other than the Aircraft in Distress.** An aircraft becoming aware that another aircraft or mobile station is in distress, should transmit the distress message when:

- (1) The station in distress is not itself in a position to transmit the message, or
- (2) the person in command of the aircraft which intervenes believes that further help is necessary.

3.7.1 Aircraft which receive a distress message from an aircraft which beyond any possible doubt, is not in their vicinity, shall allow a short interval time before acknowledging receipt of the message in order to permit stations nearer to the aircraft in distress to answer and acknowledge receipt without interference.

3.7.2 A distress message repeated by an aircraft other than the aircraft in distress shall be preceded by a call comprising.

- (1) the signal MAYDAY RELAY spoken three times
- (2) the words THIS IS
- (3) the call sign of aircraft repeating the message spoken three times.

3.8 **Action by Ground Station.** Any station of the aeronautical mobile service, which was last in contact with the distressed aircraft and which receives a distress message from such aircraft, shall acknowledge its receipt at once. Other aeronautical stations which receive a distress message shall acknowledge receipt

after waiting a reasonable time to permit the aeronautical station last in contact to answer without interference. The distress message need not be acknowledged if it is definitely known that satisfactory communications have been established between another aeronautical station and the aircraft in distress.

**3.8.1** Aeronautical stations acknowledging receipt of a distress message shall take the following action:

- (1) forward the information immediately to the appropriate agencies (Air Traffic Control and Search and Rescue organizations),
- (2) continue to guard the frequency on which the distress message was received, and, as far as possible any other frequency which may be used by the aircraft in distress. Under no circumstances shall the frequency last used by the aircraft be left unguarded unless it is known that distress traffic has been established on another frequency. A continuous watch shall, if possible, be established immediately on the appropriate distress and emergency frequencies (3023.5 Kc, 8364 Kc, 121.5 Mc. and 243 Mc.)
- (3) notify any direction finding or radar station which may be of assistance, unless it is known that Air Traffic Control or Search and Rescue organizations will do so on receipt of the distress message,
- (4) cease all transmissions which may interfere with the distress traffic.

**3.8.3** Other aeronautical stations which receive a distress message but do not acknowledge its receipt shall take action as follows:

- (1) continue to guard the frequency on which the distress message was received and if possible

- establish a continuous watch on appropriate distress and emergency frequencies,
- (2) notify the nearest direction finding or radar station which may be of assistance unless it is known that this action has been or will be taken by the station acknowledging receipt of the distress message,
  - (3) cease all transmissions which may interfere with the distress traffic.

**3.9 Acknowledgment of Receipt of a Distress Message.** The acknowledgment of receipt of a distress message shall be given in the following form:

- (1) the call sign of the aircraft in distress (three times)
- (2) the words **THIS IS**
- (3) the call sign of the station acknowledging the receipt (three times)
- (4) the word **ROGER**
- (5) the word **MAYDAY**
- (6) the word **OUT**

**3.10 Imposition of Silence.** The aircraft in distress shall be permitted to impose silence either on all stations of the aeronautical mobile service in the area or on any station which interferes with the distress traffic. It shall address these instructions to **ALL STATIONS** or to specific stations only, according to circumstances, in either case it shall use the expression **SEELONCE MAYDAY** (or **STOP TRANSMITTING, MAYDAY**).

**3.10.1** If it believes it to be essential, any station of the aeronautical mobile service near the aircraft in distress shall also impose silence. For this purpose it shall use the words **SEELONCE DISTRESS** (or **STOP TRANSMITTING DISTRESS**) followed by its own call sign.



- 3.11 **Distress Traffic.** Distress traffic consists of all messages relative to the immediate assistance required by the aircraft in distress.
- 3.11.1 In distress traffic, the distress signal shall be sent before the call and at the beginning of the preamble of any message.
- 3.11.2 The control of distress traffic is the responsibility of the aircraft in distress or of the station which sent the distress message (see 3.7). These stations may, however, delegate the control of distress traffic to another station.
- 3.11.3 Any station in the aeronautical mobile service which has knowledge of distress traffic shall follow the progress of such traffic, even though it does not take part in it.
- 3.11.4 For the entire duration of distress traffic, stations which are aware of this traffic and which are not taking part in it shall not transmit on the frequencies on which the traffic is taking place.
- 3.11.4.1 A station of the aeronautical mobile service which, while following the progress of distress traffic is able to continue its normal service, may do so when distress traffic is well established, on condition that it does not transmit on frequencies used for the distress traffic or otherwise interfere with such traffic.
- 3.12 **Cancellation of Distress.** When an aircraft is no longer in distress, it or the station which transmitted the distress message shall transmit, on the same frequency(ies) on which the distress message was sent, a message cancelling the state of distress.
- 3.12.1 When it is no longer necessary to observe silence, or when the distress traffic is ended, the station which has controlled the distress traffic shall send on the

frequency(ies) used for such traffic, a message addressed to **ALL STATIONS**, indicating that the distress traffic has ended.

**3.12.2** The cancellation of distress message shall take the following form:

- (1) the word **MAYDAY**,
- (2) the words **ALL STATIONS**, (three times)
- (3) the words **THIS IS**
- (4) the call sign of station transmitting the message,
- (5) the filing time of the message,
- (6) the call sign of the aircraft or ship in distress,
- (7) the words **SEELONCE FEENEE** (or **DISTRESS TRAFFIC ENDED**),
- (8) the word **OUT**.

### **3.13 Examples of Distress Traffic.**

#### **3.13.1 Distress Message from an Aircraft in Distress.**

**MAYDAY MAYDAY MAYDAY THIS IS CFZXY CFZXY CFZXY FIVE ZERO MILES SOUTH OF SEVEN ISLANDS AT ONE SEVEN TWO FIVE EASTERN, FOUR THOUSAND, ANSON FIVE, ICING WILL ATTEMPT CRASH LANDING ON ICE—CFZXY—OVER.**

#### **3.13.2 Acknowledgment of Distress.**

**CFZXY CFZXY CFZXY THIS IS SEVEN ISLANDS RADIO SEVEN ISLANDS RADIO SEVEN ISLANDS RADIO—ROGER MAYDAY—OUT.**

#### **3.13.3 Imposition of Silence on a Specific Station by Aircraft in Distress.**

**MAYDAY CFMNO CFMNO CFMNO THIS IS CFZXY CFZXY CFZXY—SEELONCE MAYDAY (or STOP TRANSMITTING MAYDAY) CFZXY—OUT**

**3.13.3.1 Imposition of Silence on all Stations by a Station other than the Aircraft in Distress.**

MAYDAY ALL STATIONS ALL STATIONS ALL STATIONS THIS IS SEVEN ISLANDS RADIO—SEELONCE DISTRESS (or STOP TRANSMITTING DISTRESS)—SEVEN ISLANDS RADIO—OUT

**3.13.4 Cancellation of Distress.**

MAYDAY ALL STATIONS ALL STATIONS ALL STATIONS THIS IS CFZXY CFZXY CFZXY—ONE SEVEN FOUR ZERO EASTERN—CFZXY SEELONCE FEENEE (or DISTRESS TRAFFIC ENDED) — ICE CLEARED RETURNING SEVEN ISLANDS—OUT

MAYDAY ALL STATIONS ALL STATIONS ALL STATIONS THIS IS SEVEN ISLANDS RADIO—ONE SEVEN FOUR FOUR EASTERN—CFZXY SEELONCE FEENEE (or DISTRESS TRAFFIC ENDED)—OUT

**4. URGENCY COMMUNICATIONS.**

**4.1 Urgency Signal.** In radiotelephony, the urgency signal is the word PAN spoken three times. It is sent before the call.

**4.1.1** The urgency signal indicates that the station calling has a very urgent message to transmit concerning the safety of a ship, aircraft or other vehicle or of some person on board or within sight.

**4.1.2** When used by an aircraft the message preceded by the urgency signal should, as a general rule, be addressed to a specific station, and shall be used only on the authority of the person in command.

**4.2 Priority.** The urgency signal has priority over all other communications except distress.

- 4.2.1 Stations which hear the urgency signal shall continue to listen for at least three minutes on the frequency on which the signal is heard, after which, if no urgency message has been heard, they may resume normal service. All stations which hear the urgency signal must take care not to interfere with the urgency message which follows it.
- 4.2.2 Stations which are in communication on frequencies other than that used for the transmission of the urgency message, may continue normal work without interruption, provided that the urgency message is not addressed to ALL STATIONS
- 4.3 **Urgency Message.** The urgency signal shall be followed by a message giving further information of the incident which necessitated the use of the urgency signal. The message shall be in plain language.
- 4.3.1 When the urgency message does not contain a specific address and is acknowledged by an aeronautical ground station, that station shall forward the information to the appropriate authorities (Air Traffic Control and Search and Rescue organizations).
- 4.4 **Cancellation of Urgency Message.** When the urgency signal has been used before a message addressed to ALL STATIONS and which calls for action by stations receiving the message, the station responsible for its transmission shall cancel it as soon as it knows that action is no longer necessary. The cancellation message shall be addressed to ALL STATIONS.
- 4.5 **Examples of Urgency Messages.**
- 4.5.1 **Message Addressed to ALL STATIONS.**  
PAN PAN PAN ALL STATIONS ALL STATIONS  
ALL STATIONS THIS IS OTTAWA RADIO OTTAWA  
RADIO OTTAWA RADIO—EMERGENCY

DESCENT AT OTTAWA AIRPORT, OTTAWA TOWER INSTRUCTS ALL AIRCRAFT BELOW SIX THOUSAND FEET WITHIN RADIUS OF ONE ZERO MILES OF OTTAWA RADIO RANGE LEAVE EAST AND SOUTH COURSES IMMEDIATELY—THIS IS OTTAWA RADIO, OUT.

4.5.2 **Message Addressed to a Specific Station.**

PAN PAN PAN OTTAWA TOWER THIS IS CESSNA ABC—ADVISE GRUMMAN XYZ THAT HIS UNDER CARRIAGE IS DAMAGED—OVER

4.5.3 **Cancellation of Urgency Message.**

ALL STATIONS ALL STATIONS ALL STATIONS THIS IS OTTAWA RADIO OTTAWA RADIO OTTAWA RADIO—EMERGENCY DESCENT AT OTTAWA AIRPORT COMPLETED, URGENCY ENDED—THIS IS OTTAWA RADIO, OUT.

5. **SAFETY COMMUNICATIONS.** (see 2.1.5.3)

*Note:*

Safety messages are not employed in the aeronautical service but in view of possible inter-service communications with maritime operations (ships) it is considered essential this procedure be known.

5.1 **Safety Signal.** In radiotelephony, the safety signal is the word SECURITY spoken three times. It is sent before the call.

5.1.1 The safety signal indicates that the station calling is about to transmit a message concerning the safety of navigation or giving important meteorological warnings.

5.2 **Priority.** The safety signal has priority over all other communications except distress and urgency.



- 5.2.1 All stations hearing the safety signal shall continue to listen on the frequency on which the signal has been transmitted, until they are satisfied that the message is of no interest to them.
- 5.2.2 All stations which hear the safety signal must take care not to interfere with the message which follows it.
- 5.3 **Safety Message.** The safety message may be addressed to one or more specific stations or to **ALL STATIONS.**
- 5.4 **Example of Safety Message.**  
SECURITY SECURITY SECURITY ALL STATIONS ALL STATIONS ALL STATIONS THIS IS TUG WOEFUL TUG WOEFUL TUG WOEFUL, LOG BOOM ADRIFT AND BREAKING UP SIX MILES SOUTH OF MERRY ISLAND, DANGEROUS TO NAVIGATION, TUG WOEFUL, OUT.

## THE NOTAM CODE

The NOTAM Code is provided to enable the coding of information regarding the establishment, condition or change of radio aids, aerodromes and lighting facilities, dangers to aircraft in flight, or search and rescue facilities. Encoding facilitates the dissemination of NOTAMS by reducing the transmission time over telecommunication channels.

All NOTAM Code groups contain a total of five (5) letters, the first letter "Q", the second and third letters indicating the facility, service or danger in aircraft in flight being reported upon; the fourth and fifth letters to denote the status of operation of the facility, service or danger to aircraft in flight reported upon.

The significations assigned to NOTAM Code groups shall be amplified or completed where necessary by the addition of appropriate authorized abbreviations, frequencies, call signs, place names or figures. The information necessary to complete a signification, shall be given except when: (a) the blank spaces are enclosed within parentheses to indicate their completion is optional (b) an alternative meaning shown in parentheses is selected and the blank space in this alternative meaning is completed.

*Examples:*

CYUL QAJES 210800Z

— The LF radio range and associated voice communications at Montreal will be out of service from 0800 hours GMT on the 21st for an unknown duration.

## THE NOTAM CODE

CYUL QAPES 210800Z 210900Z

— The VOR radio range and associated voice facilities at Montreal will be out of service from 0800 hours GMT on the 21st until 0900 hours GMT of the same day.

CYUL QAJOM 221330Z RANGE  
BEING RETUNED

— Montreal LF radio range and associated voice communications will be shut down for maintenance from 1330 GMT on the 22nd for an unknown duration disregard all signals range being retuned.

CYOW QASAU OW MONITORS WC  
OC NORMALLY TN

— Ottawa radio range leg appears unreliable Ottawa monitors west course on course normally twilight N.

CYQT QAHES QUEBEC 201330Z

— Lakehead Quebec non-directional radio beacon (NDB) out of service from 1330 GMT on the 20th for an unknown duration.

The letters "CY" are prefixed to be basic domestic two-letter location identifiers to form the international four-letter I.C.A.O. abbreviation of place names. "CY" being the letters assigned to Canada as nationality designating letters.

## SECOND AND THIRD LETTERS

### RADIO AIDS

#### SIGNIFICATION

AA	. . . [ <i>specify TWR, APP, ATC or OAC</i> ] air traffic services receiver . . . kc/s. ( <i>or . . . Mc/s.</i> )
AB	Inner marker, Instrument Landing System.
AC	. . . [ <i>specify TWR, APP, ATC or OAC</i> ] air traffic services transmitter . . . kc/s. ( <i>or . . . Mc/s.</i> )
AD	Middle marker, Instrument Landing System.
AE	Outer marker, Instrument Landing System.
AF	Fan-type marker.
AG	Glide path, Instrument Landing System.
AH	Non-directional beacon (NDB).
AI	Instrument Landing System (ILS).
AJ	Radio range (other than VOR) and associated voice communications.
AK	Radio receiving facilities.
AL	Localizer, Instrument Landing System.
AM	Locator, inner, Instrument Landing System.
AN	TACAN.
AO	Locator, outer, Instrument Landing System.
AP	VOR (VHF Omnidirectional Radio Range) and associated voice communications.
AQ	VOR (VHF Omnidirectional Radio Range).
AR	Radio range other than VOR.
AS	Radio range leg.
AT	Attention signal.
AU	Meteorological communications . . . kc/s. ( <i>or . . . Mc/s.</i> ).
AV	Voice communications . . . kc/s. ( <i>or . . . Mc/s.</i> ).
AW	—
AX	Non-directional beacon (NDB) and voice facility.
AY	200 Mc/s. Distance Measuring Equipment (DME).
AZ	Station location marker VHF.
EA	En route Surveillance Radar.
EB	Broadcasting station (public).
EC	Consol or CONSOLAN station.

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\*Note:—Where more than one DME is installed at the same location, the type of associated facility (e.g., ILS, VOR, TACAN or VORTAC) should be indicated.

## THE NOTAM CODE

### SECOND AND THIRD LETTERS (cont'd)

#### RADIO AIDS (cont'd)

##### SIGNIFICATION

ED	Decca or DECTRA.
EE	Ground Controlled Approach System (GCA).
EF	Terminal Area Surveillance Radar.
EG	Gee.
EH	Elevation element of the Precision Approach Radar (PAR).
EI	Monitoring device associated with . . . . (specify) radio aid.
EJ	All air-ground facilities (except . . . ).
EK	Precision Approach Radar (PAR).
EL	Loran.
EM	Azimuth element of the Precision Approach Radar (PAR).
EN	DME (1000 Mc/s. Distance Measuring Equipment).*
EO	Beam Approach Beacon System (BABS).
EP	Radar responder beacon.
EQ	Surveillance Radar Element (SRE) of GCA.
ER	Radio transmitting facilities.
ES	All radio-navigation facilities (except . . . ).
ET	Teletypewriter transmitting facility(ies).
EU	Radio direction finding station . . . ( <i>frequency or type</i> ).
EV	VORTAC (the combination of VOR and TACAN).
EW	Ground interrogator, Secondary Surveillance Radar (SSR) System.
EX	—
EY	Ground movement radar (GMR)
EZ	—



## SECOND AND THIRD LETTERS (cont'd)

### LIGHTING FACILITIES

#### SIGNIFICATION

IA	Boundary lights.
IB	Aerodrome beacon.
IC	_____
ID	Channel lights.
IE	Light beacon.
IF	Flood lights.
IG	Angle-of-approach lights.
IH	Taxiway lights.
II	Hazard beacon.
IJ	Threshold lights (for runway number . . . ).
IK	Flares.
IL	All landing area lighting facilities.
IM	Identification beacon.
IN	_____
IO	Obstruction lights.
IP	Approach light system [type . . . ( <i>specify LSA (low intensity) or LSB (high intensity)</i> )] (for runway number . . . ).
IQ	Runway alignment beacon.
IR	Runway lights [type . . . ( <i>specify LSA (low intensity) or LSB (high intensity)</i> )] (for runway number . . . ).
IS	Strip lights [for strip . . . ( <i>number or magnetic direction</i> )].
IT	_____
IU	_____
IV	_____
IW	_____
IX	Flashing sequence lights.
IY	_____
IZ	Airway course lights.

## THE NOTAM CODE

### SECOND AND THIRD LETTERS (cont'd) AERODROMES: SEARCH AND RESCUE: DANGERS TO AIRCRAFT IN FLIGHT

#### SIGNIFICATION

OA	Land aerodrome.
OB	Beaching facilities.
OC	Water aerodrome.
OD	Meteorological forecast service.
OE	Meteorological observation service.
OF	Meteorological watch service.
OG	Runway arresting gear.
OH	Helicopter landing area.
OI	—
OJ	—
OK	—
OL	—
OM	All runways [except number(s) . . . ].
ON	Stopway for runway number . . . ].
OO	Taxiway(s).
OP	Rescue vessel.
OQ	Ocean Station Vessel.
OR	Refuelling [ . . . type fuel(s) <i>or</i> . . . octane].
OS	Search and rescue aircraft [ <i>specify VLR, LRG, MRG, SRG or HEL</i> ].
OT	Crash and fire fighting facilities.
OU	—
OV	. . . [specify TWR, APP, ACC or FIC] air traffic service.
OW	—
OX	—
OY	—
OZ	Warship.
UA	Alighting area.
UB	Mooring buoys.
UC	—
UD	Prohibited, restricted or danger Area designated as . . . ( <i>name or reference number</i> ).
UE	Aircraft.
UF	Fixed balloons.

SECOND AND THIRD LETTERS (cont'd)

**AERODROMES: SEARCH AND RESCUE:  
DANGERS TO AIRCRAFT IN FLIGHT (cont'd)**

SIGNIFICATION

UG	Bombing or aerial depth charge dropping.
UH	Air exercises ( <i>or</i> flying displays).
UI	Gun or missile firing.
UJ	Glider flying.
UK	Demolition of explosives.
UL	Landing direction indicator.
UM	Mooring and docking facilities.
UN	Parachute jumping exercises.
UO	----
UP	----
UQ	Apron.
UR	Runway(s) number(s) . . .
US	Strip . . . ( <i>number or magnetic direction</i> ).
UT	Grass landing area.
UU	----
UV	Fog dispersal equipment.
UW	----
UX	----
UY	----
UZ	Runway threshold (number . . . ).

## THE NOTAM CODE

# FOURTH AND FIFTH LETTERS HAZARD OR STATUS OF OPERATION

## SIGNIFICATION

AA	——
AB	Usable for length of . . . and width of . . .
AC	Covered by snow to a depth of . . . <i>Note.—This snow is not compacted.</i>
AD	Cleared of soft snow, full length and width.
AE	Totally free of snow and ice.
AF	Covered by [. . . (type)] ice to a depth of . . .
AG	——
AH	——
AI	Operating without tone modulation.
AJ	Operating without coding.
AK	Covered by compacted snow to a depth of . . .
AL	Operating on reduced power.
AM	Snow clearance in progress [estimated time of completion is . . . (date/time)].
AN	Grass cutting in progress [estimated time of completion is . . . (date/time)].
AO	Marked by . . .
AP	Work is in progress [estimated time of completion is . . . (date/time)].
AQ	Work completed.
AR	Snow clearance completed.
AS	Grass cutting completed.
AT	Sanding is in progress [estimated time of completion is . . . (date/time)].
AU	Appears unreliable.
AV	Covered by ice patches.
AW	Height of snowbanks is . . . (figures and units).
AX	Braking action is . . . (A = good, B = medium, C = poor).
AY	Are to avoid area, radius of danger being . . . (about the point . . .).
AZ	Will take place from . . . (date/time) for an unknown duration [or until . . . (date/time)] (on the days of . . . between the hours of . . . and . . .) at . . . (location) (within the sector of . . . and a radius of . . .) at . . . height above . . . (datum).
EA	——
EB	Location change to . . . effective . . . (date/time).
EC	Characteristics or identification or radio call sign changed to . . .

## THE NOTAM CODE

### FOURTH AND FIFTH LETTERS (cont'd)

## HAZARD OR STATUS OF OPERATION (cont'd)

### SIGNIFICATION

ED	Operating frequency(ies) will be changed to . . . kc/s. (or . . . Mc/s.) effective . . . ( <i>date/time</i> ).
EE	—
EF	—
EG	—
EH	Not heard.
EI	—
EJ	—
EK	—
EL	—
EM	Military operations only.
EN	Not available due to . . . (specify reason) from . . . ( <i>date/time</i> ) for an unknown duration [or until . . . ( <i>date/time</i> )].
EO	—
EP	Available on prior permission (of . . . ) only.
EQ	—
ER	—
ES	Out of service from . . . ( <i>date/time</i> ) for an unknown duration [or until . . . ( <i>date/time</i> )] due to the following conditions.
ET	Test operation only. NOT for operational use.
EU	—
EV	—
EW	Completely withdrawn.
EX	—
EY	Is outside the limits of its assigned ocean station.
EZ	Is within the limits of its assigned ocean station.
IA	—
IB	—
IC	Report of apparent unreliability or track displacement hereby is cancelled.
ID	Available on request to . . .
IE	—
IF	Flight checked and found reliable
IG	—
IH	—
II	—



## THE NOTAM CODE

### FOURTH AND FIFTH LETTERS (cont'd)

## HAZARD OR STATUS OF OPERATION (cont'd)

### SIGNIFICATION

IJ	—
IK	Available on request (to . . . ) immediately [ <i>or at . . . (time period) notice</i> ].
IL	Hours of service are now . . .
IM	—
IN	Operative ( <i>or re-operative</i> ), activated ( <i>or re-activated</i> ) from . . . ( <i>date/time</i> ) for an unknown duration [ <i>or until . . . (date/time)</i> ].
IO	Operating normally.
IP	Track(s) reported to be displaced (. . . degrees) (. . . direction) of published bearing(s), other tracks probably have shifted.
IQ	To be used as radio beacon only.
IR	Magnetic track(s) towards station is (are) now . . . [ <i>will be . . . at . . . (date/time)</i> ].
IS	Operative ( <i>or re-operative</i> ) subject to conditions/limitation already published.
IT	Aircraft restricted to runways and taxiways.
IU	Unserviceable for aircraft heavier than . . . tons.
IV	Unsafe from . . . ( <i>date/time</i> ) for an unknown duration [ <i>or until . . . (date/time)</i> ].
IW	—
IX	—
IY	—
IZ	—
OA	—
OB	—
OC	—
OD	—
OE	—
OF	—
OG	Operative but ground checked only, awaiting flight check.
OH	—
OI	—
OJ	—
OK	Resumed normal operation.
OL	Track(s) ground checked, approved for instrument flying.

FOURTH AND FIFTH LETTERS (cont'd)

HAZARD OR STATUS OF OPERATION (cont'd)

SIGNIFICATION

OM	Shut down for maintenance from . . . ( <i>date/time</i> ) for an unknown duration [ <i>or until . . . (date/time)</i> ] <i>—disregard all signals.</i>
ON	—
OO	—
OP	—
OQ	—
OR	Previously promulgated shutdown has been cancelled.
OS	—
OT	New facility in operation.
OU	Operating without interruption for voice transmissions from . . . ( <i>date/time</i> ) for an unknown duration [ <i>or until . . . (date/time)</i> ].
OV	—
OW	—
OX	Exercising at . . . ( <i>date/time, location and height above the specified datum</i> ).
OY	—
OZ	—
UA	Closed to all operations from . . . ( <i>date/time</i> ) for an unknown duration [ <i>or until . . . (date/time)</i> ].
UB	—
UC	—
UD	Closed to all night operations from . . . ( <i>date/time</i> ) for an unknown duration [ <i>or until . . . (date/time)</i> ].
UE	—
UF	Closed for an unknown duration due to flood.
UG	Closed for an unknown duration [ <i>or until . . . (date/time)</i> ] due to ice or snow.
UH	Closed for an unknown duration [ <i>or until . . . (date/time)</i> ] due to thaw.
UI	Closed from . . . ( <i>date/time</i> ) for an unknown duration [ <i>or until . . . (date/time)</i> ] for maintenance.
UJ	—
UK	—

## THE NOTAM CODE

### FOURTH AND FIFTH LETTERS (concl'd)

## HAZARD OR STATUS OF OPERATION (concl'd)

### SIGNIFICATION

UL	——
UM	Operating in an unmonitored status.
UN	——
UO	——
UP	——
UQ	——
UR	——
US	——
UT	Operative but caution advised due to following condition/s . . .
UU	Suitable for . . . ( <i>specify</i> ) equipped aircraft only.
UV	Covered by slush to a depth of . . .
UW	Covered by water to a depth of . . .
UX	——
UY	——
UZ	——

## ABBREVIATIONS AND PHRASE CONTRACTIONS

The following abbreviations and phrase contractions are authorized, in addition to the Notam Code, for use in notices to airmen relating to radio aids.

AC	— final approach course.	OC	— on course.
CH	— course hunting.	PA	— predominant A.
CS	— course shift.	PN	— predominant N.
DA	— distinct A.	SC	— south course.
DC	— average diameter of station location marker field pattern.	SCH	— south course hunting.
DN	— distinct N.	SCS	— south course shift.
EC	— east course.	SEQ	— southeast quadrant.
ECH	— east course hunting.	SWQ	— southwest quadrant.
ECS	— east course shift.	TA	— twilight A.
LC	— letdown course.	TF	— thickness of fan type marker field pattern.
NC	— north course.	TN	— twilight N.
NCH	— north course hunting.	VC	— navigational course.
NCS	— north course shift.	WCH	— west course hunting.
NEQ	— northeast quadrant.	WCS	— west course shift.
NWQ	— northwest quadrant.	WF	— width of fan type. marker field pattern
		WC	— west course.

## CANADIAN VHF AERONAUTICAL FREQUENCY PLAN

The plan set forth below indicates Canadian Policy regarding frequency assignment in the band 108-136 Mc/s, and types of service for which specified frequencies may be used. It is not an implementation plan.

In connection with this listing, the terms "Scheduled Aircraft" and "Itinerant Aircraft" shall be given the following interpretation:—

All Aircraft—All Civil and Military Aircraft.

Scheduled Aircraft—Aircraft operated on scheduled commercial air services.

Itinerant Aircraft—All civilian aircraft not operated on scheduled commercial air services.

Air-Ground communications means two-way simplex communication between aircraft and ground stations.

see Note 1	Frequencies Mc/s (50 kc/s spacing)	User Aircraft	Facility	Type of Service
	108.05 thru 117.95			Navigation Aids
see Note 2	108.10-111.9 Odd tenth decimal frequencies	All	ILS Localizers	Navigation
	110.1 Mc/s	All	ILS	Ramp check
	108.2-112.0 Even tenth decimal freqs.	All	VOR (50 watts)	Navigation
	112.1-117.9	All	VOR (200 watts)	Navigation
	114.8	All	VOR	Ramp check



Note (Cont'd)	Frequencies Mc/s (50 kc/s spacing)	User Aircraft	Facility	Type of Service
see Note 3	118.0 thru 119.65 & 119.75 thru 121.40	Scheduled & Itinerant	Air Traffic Control	Ground to Air Air-Ground  Terminal Communications
	119.70	All	ATC Centres	Enroute below 12,000 ft.
	121.50	All	Emergency All Stations	Air-Ground
	121.60 thru 121.95	All	Air Traffic Control	Ground Control
	121.6	All	Scene of Action	Search and Rescue
	122.0 thru 122.30	All	Aeronautical Communication	Air-Ground
			Facilities other than towers and company stations	
	122.2	All	Radio Ranges Radar Advisory Private Advisory Service at Controlled airports	Air-Ground and Air-Air
	122.35 thru 122.75 & 122.85 thru 123.05	Itinerant	Air Traffic Control	Air to Ground
	122.80	Itinerant	Private Advisory	Air-Ground Air to Air
See Note 4	123.10 thru 123.55	Flight Test & Flying Schools	Company Stations	Air-Ground Air to Air
	123.60 thru 126.65	All	Air Traffic Control	Air to Ground & Air-Ground
	126.20	Military	Air Traffic Control	Air-Ground
	126.7	Scheduled & Itinerant	DOT Aeradio Station	Air-Ground
See Note 5	126.75 thru 128.80	All	Air Traffic Control	Below 24,000 feet
	126.90	All	DQT Aeradio Enroute	Air-Ground

<u>Note (Cont'd)</u>	<u>Frequencies Mc/s (50 kc/s spacing)</u>	<u>User Aircraft</u>	<u>Facility</u>	<u>Type of Service</u>
	128.825 thru 132.025	Scheduled & Itinerant	Company Stations	Air-Ground
	132.025 thru 134.95	All	Air Traffic Control	Enroute above 24,000 feet
	135.0 thru 136.0	All	Company Stations	Air-Ground
	135.85) 135.95)	Common Canada/USA flight inspection		
	135.9	Common Canada/USA military VFR advisory service		

Note 1. The frequencies ending in .05 Mc/s, the use of which will provide 50 kc/s channel separation only, were assigned for use January 1, 1964.

Note 2. The following assignments will be made on a sequential basis in accordance with the following plan. (Glide path frequencies are shown in order to provide data on the pairing of localizer and glide path frequencies.)

<u>Sequence</u>	<u>Priority</u>	<u>Localizer Frequency</u>	<u>Glide Path Frequency</u>
1		110.3 Mc/s.	335.0 Mc/s.
2		109.9 "	333.8 "
3		109.5 "	332.6 "
4		110.1 "	334.4 "
5		109.7 "	333.2 "
6		109.3 "	332.0 "
7		109.1 "	331.4 "
8		110.9 "	330.8 "
9		110.7 "	330.2 "
10		110.5 "	329.6 "
11		108.1 "	334.7 "
12		108.3 "	334.1 "
13		108.5 "	329.9 "
14		108.7 "	330.5 "
15		108.9 "	329.3 "
16		111.1 "	331.7 "
17		111.3 "	332.3 "
18		111.5 "	332.9 "
19		111.7 "	333.5 "
20		111.9 "	331.1 "

## NOTES (concl'd)

- Note. 3 By international agreement, 100 kc/s protection is provided for 121.5 Mc/s. The term "EMERGENCY" shall be given a fairly liberal interpretation. In addition to its use when an aircraft is in an emergency and normal channels are busy, the frequency may be used (1) when airborne or ground equipment on normal channels has failed and (2) when an aircraft is not equipped with the ground station's normal channels, provided that the aircraft is not engaged in a regular operation.
- Note 4. Frequencies for peripheral or remotely controlled air traffic control centre communications providing service to aircraft below 12,000 feet will, whenever possible, be assigned from the following list:—
- |       |      |
|-------|------|
| 123.6 | Mc/s |
| 123.9 | "    |
| 124.0 | "    |
| 124.3 | "    |
| 124.4 | "    |
| 124.8 | "    |
| 125.2 | "    |
- Note 5. In the case of 127.1 and 127.3 Mc/s, exceptions have been made in that their use as ICAO enroute frequencies has been permitted at Gander and Vancouver, respectively.











